Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS:

1. (Currently Amended) A non-transitory computer-readable recording medium having playlist information recorded thereon and played by a reproduction apparatus, wherein

the playlist information defines a playback section of each of a plurality of digital streams, and includes main-path information and sub-path information,

the main-path information designates one of the digital streams as a main stream, and defines a portion of the main stream as a primary playback section,

the sub-path information designates another one of the digital streams as a substream, and defines a portion of the substream as a secondary playback section that is to be synchronously played back with the primary playback section,

the sub-path information includes synchronous information,

the synchronous information includes timing information indicating, on a timeline of the primary playback section, a synchronization point for the synchronous playback of the secondary playback section with the primary playback section,

the recording medium further has recorded thereon the one of the plurality of digital streams designated as the substream, together with an entry map, [[and]]

the entry map indicates a plurality of entry points on the substream in one-to-one correspondence with a plurality of entry times on a timeline of the substream, and

the playlist information, the substream, and the entry map are grouped into a directory that is uniquely specified by a combination of an organization name of a provider of the

substream and an identifier identifying a recording medium storing the main stream to be synchronously played back with the substream.

2. (Currently Amended) The non-transitory computer-readable recording medium according to Claim 1, wherein

the main-path information and the sub-path information includes, for each playback section, timing information indicating a playback start time and a playback end time of the playback section on a timeline of a respective digital stream~~, and~~

~~the playlist information, the substream, and the entry map are grouped into a directory that is uniquely specified by a combination of an organization name of a provider of the substream and an identifier identifying a recording medium storing the main stream to be synchronously played back with the substream~~.

3. (Previously Amended) The non-transitory computer-readable recording medium according to Claim 1, wherein

the entry map indicates either the plurality of entry points each coinciding with a head of a complete data set of the substream or the plurality of entry point each not coinciding with a head of a complete data set of the substream, and

the entry map includes a type flag indicating whether or not the entry map indicates the plurality of entry points each coinciding with a head of a complete data set of the substream.

4. (Previously Amended) The non-transitory computer-readable recording medium according to Claim 1, wherein

the substream is either a primary audio stream or a secondary audio stream, the primary audio stream being configured to be supplied to a first audio decoder or a playback device, and the secondary audio stream being configured to be supplied to a second audio decoder of the playback device,

the sub-path information includes path-type information indicating whether the secondary playback section is:

(i) a playback section of the primary audio stream for appending or replacing a playback section of another audio stream; or

(ii) a playback section of the secondary audio stream for producing audio output mixed with audio output of a playback section of the primary audio stream.

5. (Previously Amended) The non-transitory computer-readable recording medium according to Claim 1, wherein

the substream is either a presentation graphics stream or an interactive graphics stream,

the sub-path information includes path-type information indicating whether the secondary playback section is:

(i) a playback section of the presentation graphics stream for appending or replacing a playback section of another presentation graphics stream; or

(ii) a playback section of the interactive graphics stream for appending or replacing a playback section of another interactive graphics stream, and

the substream is to be decoded by a graphics decoder and overlaid with the main stream decoded by a video decoder.

Claims 6-7 (Cancelled)

8. (Currently Amended) A playback device for executing trick play of a main stream and a substream, a portion of the main stream being defined as a primary playback section, a portion of the substream being defined as a secondary playback section and a start point of the trick play being defined on a timeline of the primary playback section, the playback device comprising:

a first conversion unit operable to convert ~~the start~~ a playback point into a corresponding address on the main stream;

a second conversion unit operable to convert the start point into a corresponding point defined on a timeline of the secondary playback section, and to further convert the corresponding point into a corresponding address on the substream;

a reading unit operable to read the main stream and substream starting from the respective addresses obtained by the first and second conversion units; and

a playback unit operable to play back the main stream and the substream read by the reading unit, wherein

the primary and secondary playback sections are defined by playlist information,

the playlist information includes synchronous information,

the synchronous information includes timing information indicating, on the timeline of the primary playback section, a synchronization point for starting synchronous playback of the secondary playback section with the primary playback section,

the substream is associated with an entry map,

the playlist information, the substream, and the entry map are grouped into a directory that is uniquely specified by a combination of an organization name of a provider of the

substream and an identifier identifying a recording medium storing the main stream to be synchronously played back with the substream,

the second conversion unit is operable to use the synchronous information to perform the conversion into the corresponding point on the timeline of the secondary playback section, and

the second conversion unit is operable to use the entry map associated with the substream to perform the conversion into the corresponding address on the substream.

9. (Previously Amended) The playback device according to Claim 8, wherein

the entry map indicates either the plurality of entry points each coinciding with a head of a complete data set of the substream or the plurality of entry point each not coinciding with a head of a complete data set of the substream,

the entry map includes a type flag indicating whether or not the entry map indicates the plurality of entry points each coinciding with a head of a complete data set of the substream, and

when the type flag indicates that the entry map indicates the plurality of entry points each coinciding with a head of a complete data set of the substream, the second conversion unit is operable to obtain, as the corresponding address, an entry point that corresponds to an entry time near the requested start point, from among entry points each located at a head of a complete data set.

10. (Currently Amended) The playback device according to Claim 8, further comprising:

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a first audio decoder,

a second audio decoder and a mixer,

the substream is either a primary audio stream or a secondary audio stream, the primary audio stream being configured to be supplied to [[a]] the first audio decoder, and the secondary audio stream being configured to be supplied to [[a]] the second audio decoder,

the sub-path information includes path-type information indicating whether the secondary playback section is:

(i) a playback section of the primary audio stream for appending or replacing a playback section of another audio stream; or

(ii) a playback section of the secondary audio stream for producing audio output mixed with audio output of a playback section of the primary audio stream.

11. (Previously Amended) The playback device according to Claim 8, further comprising:

a graphics decoder and a video decoder,

the substream is either a presentation graphics stream or an interactive graphics stream,

the sub-path information includes path-type information indicating whether the secondary playback section is:

(i) a playback section of the presentation graphics stream for appending or replacing a playback section of another presentation graphics stream; or

(ii) a playback section of the interactive graphics stream for appending or replacing a playback section of another interactive graphics stream, and

the substream is to be decoded by the graphics decoder and overlaid with the main stream decoded by the video decoder.

Claims 12-15 (Cancelled)

16. (Currently Amended) A program stored on a non-transitory computer-readable medium executed by a computer for causing [[a]] the computer to execute trick play of main stream and a substream, a portion of the main stream being defined as a primary playback section, a portion of the substream being defined as a secondary playback section, and a start point of the trick play being defined on a timeline of the primary playback section, the program comprising code operable to cause the computer to perform:

firstly converting ~~the start~~ a playback point into a corresponding address on the main stream;

secondly converting the start point into a corresponding point defined on a timeline of the secondary playback section, and further converting the corresponding point into a corresponding address on the substream;

reading the main stream and substream starting from the respective addresses obtained in said first and second conversions; and

playing back the main stream and the substream read in said reading, wherein

the primary and secondary playback sections are defined by playlist information,

the playlist information includes synchronous information,

the synchronous information includes timing information indicating, on the timeline of the primary playback section, a synchronization point for starting synchronous playback of the secondary playback section with the primary playback section,

the substream is associated with an entry map,

the playlist information, the substream, and the entry map are grouped into a directory that is uniquely specified by a combination of an organization name of a provider of the substream and an identifier identifying a recording medium storing the main stream to be synchronously played back with the substream,

in said second conversion, the synchronous information is used to perform the conversion into the corresponding point on the timeline of the secondary playback section, and

in said second conversion, the entry map associated with the substream is used to perform the conversion into the corresponding address on the substream.

17. (Currently Amended) A playback method for executing trick play of main stream and a substream, a portion of the main stream being defined as a primary playback section, a portion of the substream being defined as a secondary playback section, and a start point of the trick play being defined on a timeline of the primary playback section, the playback method comprising:

firstly converting ~~the start~~ a playback point into a corresponding address on the main stream;

secondly converting the start point into a corresponding point defined on a timeline of the secondary playback section, and further converting the corresponding point into a corresponding address on the substream;

reading the main stream and substream starting from the respective addresses obtained in said first and second conversions; and

playing back the main stream and the substream read in said reading, wherein

the primary and secondary playback sections are defined by playlist information,

the playlist information includes synchronous information,

the synchronous information includes timing information indicating, on the timeline of the primary playback section, a synchronization point for starting synchronous playback of the secondary playback section with the primary playback section,

the substream is associated with an entry map,

the playlist information, the substream, and the entry map are grouped into a directory that is uniquely specified by a combination of an organization name of a provider of the substream and an identifier identifying a recording medium storing the main stream to be synchronously played back with the substream,

in said second conversion, the synchronous information is used to perform the conversion into the corresponding point on the timeline of the secondary playback section, and

in said second conversion, the entry map associated with the substream is used to perform the conversion into the corresponding address on the substream.

Claim 18 (Canceled)

19. (Currently Amended) A method of recording onto a recording medium, said method comprising:

generating application data; and

recording the generated application data onto the recording medium,

the application data includes playlist information, a plurality of digital streams, and an entry map,

the playlist information defines a playback section of each of a plurality of digital streams, and includes main-path information and sub-path information,

the main-path information designates one of the digital streams as a main stream, and defines a portion of the main stream as a primary playback section,

the sub-path information designates another one of the digital streams as a substream, and defines a portion of the substream as a secondary playback section that is to be synchronously played back with the primary playback section,

the sub-path information includes synchronous information,

the synchronous information includes timing information indicating, on a timeline of the primary playback section, a synchronization point for the synchronous playback,

the one of the plurality of digital streams designated as the substream is recorded in association with the entry map, [[and]]

the entry map indicates a plurality of entry points on the substream in one-to-one correspondence with a plurality of entry times on a timeline of the substream, and

the playlist information, the substream, and the entry map are grouped into a directory that is uniquely specified by a combination of an organization name of a provider of the substream and an identifier identifying a recording medium storing the main stream to be synchronously played back with the substream.